

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 10. This sheet, which includes Fig. 10, replaces the original sheet including Fig. 10. In Fig. 10, “int i;” recited in line 4 of functioning example 900b has been replaced with -- int i=1; -- and “if(i<N)break;” recited in line 10 of functioning example 900c has been replaced with -- if(i>=N)break; --.

Attachment: Replacement Sheet

Annotated Sheet Showing Changes

REMARKS

Reconsideration and withdrawal of the rejections set forth in the Office Action are respectfully requested in view of this amendment and the following reasons. By this amendment, claims 1, 10, 11, and 19 have been amended. Accordingly, claims 1-21 are pending in this application.

Claim 1 has been amended to recite the present subject matter more clearly; claim 10 to correct informalities; claim 11 to replace the subject of the preamble with more acceptable one and recite the present subject matter more clearly; and claim 19 to replace the subject of the preamble with more acceptable one. Support for these features may be found at least in page 9, line 18 - page 10, line 20 of the present application as filed and in its Fig. 4. Thus, it is respectfully submitted that the above amendments introduce no new matter within the meaning of 35 U.S.C. §132. Accordingly, Applicants request reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

Drawings Objection

Drawings were objected to because: in Fig. 10, program 900b is allegedly not functionally equivalent to program 900a as variable “i” is not properly initialized; and program 900c is allegedly not functioning example of program 900a as the lines of code denoting “N--” and “if(i<N)break;” of program 900c fail to work as described.

Applicants respectfully submit that “int i;” recited in program 900b has been amended to

-- int i=1; -- and “if(i<N)break;” recited in program 900c has been amended to -- if(i>=N)break; -

-. By these amendments, Applicants believe that this objection has been overcome.

Accordingly, Applicants respectfully request withdrawal of the objection to the drawings.

Rejections Under 35 U.S.C. §112

Claims 1-8 stand rejected under 35 U.S.C. §112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Particularly, the Examiner points out that the term “said watermark verification code is made identical,” recited in claim 1, lines 11-12, is unclear as to what the watermark verification code is identical to.

Applicants respectfully submit that the above-indicated term in claim 1 has been amended to -- the watermark verification code inserted in said program distributed to the plurality of distribution destinations, is made identical --. By this amendment, Applicants believe that this rejection has been overcome. Claims 2-8 depend from claim 1 and thus are allowable for at least this reason. Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. §112, second paragraph, rejection of claims 1-8.

Rejections Under 35 U.S.C. §101

Claims 7, 8, 11, and 19 stand rejected under 35 U.S.C. §101 because the claimed invention is allegedly directed to non-statutory subject matter. Specifically, the Examiner asserts that “[c]laims 7, 8, 11, 19 are directed to software, per se.” Applicants respectfully traverse this

rejection for at least the following reasons.

Applicants respectfully submit that claims 11 and 19 have been amended to replace their subject of the preamble, “watermark insertion program” and “program,” with -- computer-readable medium having a watermark insertion program -- and -- computer-readable medium having a program --, respectively. By this amendment, Applicants believe the claimed subject matter of claims 11 and 19 is allowable because “[w]hen functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)(discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and *In re Warmerdam*, 33 F.3d 1354, 1360-61, 31 USPQ2d 1754, 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory).” (MPEP §2106.01).

With respect to the rejection of claims 7 and 8, Applicants respectfully note that claim 7 depends from allowable claim 1 and therefore is allowable for at least this reason. Furthermore, claim 7 is directed to a program illegal distribution prevention *system* that has the watermark insertion *apparatus*, a program input *section*, and a watermark detection *section*. Obviously, contrary to the Examiner’s assertion, claim 7 is NOT directed to software *per se* and recites allowable subject matter. Claim 8 depends from claim 7 and thus is allowable for at least this

reason.

Accordingly, Applicants note that claims 7, 8, 11, and 19 each contains an allowable subject matter. Therefore, Applicants respectfully request withdrawal of the 35 U.S.C. §101 rejection of claims 7, 8, 11, and 19.

Rejections Under 35 U.S.C. §102

1. Claims 10 and 19 stand rejected under 35 U.S.C. §102(b) as being allegedly anticipated by Collberg et al., “Watermarking, Tamper-Proofing, and Obfuscation – Tools for Software Protection,” IEEE Transactions on Software Engineering, August 2002, pp 735-746 (“Collberg”). Applicants respectfully traverse this rejection for at least the following reasons.

Applicants respectfully submit that the rejections of independent claim 10 must be withdrawn because the cited reference does not disclose, teach, or suggest all of the features of the claimed subject matter. “Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” *W.L. Gore & Assocs. V. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). Further, “when evaluating the scope of a claim, every limitation in the claim must be considered. U.S.P.T.O. personnel may not dissect a claimed invention into discrete elements and then evaluate the elements in isolation. Instead, the claim as a whole must be considered.” *U.S.P.T.O. Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility*, page 9, October 26, 2005. As the Federal Circuit stated, “[a]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the

claim.” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)).

In view of this framework, Applicants respectfully submit that it is clear that Collberg fails to disclose every recited feature of claim 10. Specifically, claim 10 recites, *inter alia*:

converting a part *other than a location at which said watermark is inserted* while maintaining specifications of said program (Emphasis Added)

Collberg does not disclose, teach, or suggest at least this feature. Rather, in contrast to the subject matter, Collberg teaches that embedding a watermark into a program does not affect the performance of the program and statistical properties of the program (Collberg, page 741, left column, lines 4-7). Furthermore, Applicants respectfully note that the Examiner’s conclusion indicated in point 7 has not been made properly because claim 10 was amended during the international phase under PCT Article 19 and the reason supporting the conclusion is directed to a previous version of claim 10. Because Collberg does not disclose, teach, or suggest every recited feature, it fails to anticipate claim 10.

Accordingly, Applicants respectfully submit that claim 10 is allowable over Collberg. Also, claim 19 recites similar feature as claim 10 and therefore is allowable for at least this reason.

2. Claims 9 and 11 stand rejected under 35 U.S.C. §102(b) as being allegedly anticipated by International Patent Application Publication WO 2000/54128 applied for by Ward

et al. ("Ward"). Applicants respectfully traverse this rejection for at least the following reasons.

Applicants respectfully submit that it is clear that Ward fails to disclose every recited feature of claim 9. Specifically, claim 9 recites, *inter alia*:

watermark verification code that is *identical regardless of said distribution destination* is inserted in said program (Emphasis Added)

Ward does not disclose, teach, or suggest at least this feature. In connection with this feature of claim 9, Ward discloses checking the validity of the license depending on whether a text string is matched in the license form and executing no process if the license is not valid. Also, Ward teaches that plug-in 103 verifies that the content is not edited or tampered with. However, Ward fails to disclose, teach, or suggest inserting the same watermark verification code in the program irrespective of the distribution destinations, as required by the presently claimed subject matter. Although user plug-in 103 is provided in user computers, Ward does not disclose that user plug-in 103 is inserted in the program (content). Thus, Ward fails to disclose, teach, or suggest at least "watermark verification code that is identical regardless of said distribution destination is inserted in said program," as recited in claim 9. Because Ward does not disclose, teach, or suggest every recited feature, it fails to anticipate claim 9.

Accordingly, Applicants respectfully submit that claim 9 is allowable over Ward. Also, claim 11 recites similar feature as claim 9 and therefore is allowable for at least this reason.

Therefore, Applicants respectfully request withdrawal of the 35 U.S.C. §102(b) rejection of claims 9-11 and 19. Since none of the other prior art of record discloses or suggests all the

features of the claimed subject matter, Applicants respectfully submit that claims 9-11 and 19 are allowable.

Rejections Under 35 U.S.C. §103

3. Claims 1-6, 12-14, 16, and 17 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Collberg.

To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007). Furthermore, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest all of the claim limitations. See *in re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In view of this framework, Applicants respectfully submit that claims 1-6, 12-14, 16, and 17 are not obvious over Collberg for at least the following reasons. Collberg teaches embedding a unique customer identification number into each distributed copy of an application

(watermark). However, Collberg does not disclose inserting in the program per each of the plurality of distribution destinations a watermark verification code that prevents the program from operating correctly when the watermark is tampered with. Rather, Collberg discloses that a secret S stored in a program is protected by adding special tamper-proofing code, and this code is able to detect if S is tampered with, and, if that is the case, the code will make the program fail (See Collberg, page 737, right column, lines 8-12).

Claim 1, as amended, recites “for said program to be made to operate correctly, said watermark verification code is necessary; variables are assigned functions of values of the watermark, where the sum of said functions of said values is zero; and the sum of said variables is added, as watermark verification code, in a decision statement of the program so that the result of the decision statement of the program is not affected if the watermark and the watermark verification code have not been tampered, but is affected otherwise.” Collberg fails to disclose, teach, or suggest these amended features of claim 1. In contrast to the subject matter, Collberg merely teaches that, by embedding a graph structured by code in a topology of a dynamically built graph structure as a watermark, the code that builds this graph is inserted into the program to be watermarked. Thus, Applicants respectfully submit that the subject matter of claim 1, including the features cited above, is not obvious to a skilled artisan who knows the teachings of Collberg as noted above.

Furthermore, claims 12-14, 16, and 17 are not obvious over Collberg because the reference also fails to disclose, teach, or suggest the subject matter of independent claim 12. Collberg discloses a technique of obfuscating extraction of a watermark by adding a watermark

graph to a base graph. However, as shown in Fig. 8, in Collberg, the nodes of the original program are simply connected with the nodes of the watermark graph. In other words, the watermark graph is “inserted” and “added” to a graph corresponding to the original program in a two-dimensional manner. In the same context, Applicants disagree with the Office Action’s conclusion that the recited feature “conversion section that converts a part other than a location at which said watermark is inserted while maintaining specifications of said program” is obvious over Collberg, pages 741-742, section 3.2, steps a, b, and c (Office Action, page 7, last paragraph - page 8, first paragraph) because such feature is not disclosed, taught, or suggest by that portion of Collberg. Thus, Applicants respectfully submit that claim 12 is allowable over Collberg.

Claims 2-6, 13, 14, 16, and 17 depend from claim 1 or 12 and therefore are allowable for at least this reason.

4. Claims 7, 15, and 18 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Collberg in view of Palsberg et al., “Experience with Software Watermarking,” 11 Dec. 2000, 16th Annual Computer Security Applications Conferences, pp 308-316 (“Palsberg”).

Applicants respectfully submit that claims 7, 15, and 18 depend from claim 1 or 12 and Palsberg fails to cure the deficiencies of Collberg noted above with regard to claims 1 and 12. In other words, because neither of Collberg nor Palsberg discloses, teaches, or suggests the features of claim 1 or 12 cited above, even the combined reference do not disclose, teach, or suggest all of

the recited features of claim 1 or 12. Accordingly, claims 7, 15, and 18, which depend from claim 1 or 12, are allowable over Collberg and Palsberg, whether taken alone or in combination.

5. Claim 8 stands rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Collberg in view of Palsberg, in further view of U.S. Patent Application Publication No. 2003/0023856 applied for by Horne et al. (“Horne”).

Applicants respectfully submit that claim 8 depends from claim 1 and none of Palsberg and Horne cures the deficiencies of Collberg noted above with regard to claim 1. In other words, because neither of Collberg, Palsberg, nor Horne discloses, teaches, or suggests the features of claim 1 cited above, even the combined reference do not disclose, teach, or suggest all of the recited features of claim 1. Thus, claim 8, which depends from claim 1, is allowable over Collberg, Palsberg, and Horne, whether taken alone or in combination.

6. Claims 20 and 21 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Collberg in view of U.S. Patent No. 5,559,884 issued to Davidson et al. (“Davidson”).

Applicants respectfully submit that claims 20 and 21 depend from claim 12 and Davidson cures the deficiencies of Collberg noted above with regard to claim 12. In other words, because neither of Collberg nor Davidson discloses, teaches, or suggests the features of claim 12 cited above, even the combined reference do not disclose, teach, or suggest all of the recited features of claim 12. Thus, claims 20 and 21, which depend from claim 12, are allowable over Collberg

and Davidson, whether taken alone or in combination.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claims 1 and 12. Claims 2-8, 13-18, 20, and 21 depend from claim 1 or 12 and are allowable for at least this reason. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed subject matter, Applicants respectfully submit that independent claims 1 and 12, and all the claims that depend therefrom, are allowable.

CONCLUSION

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

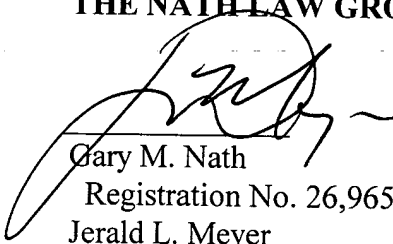
Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

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